

**REMARKS**

In accordance with the foregoing, claims 1, 12 and 23 have been amended and new claim 26 has been added, claims 1-26 are pending and under consideration.

Antecedent basis for the changes to claim 1 can be found at page 3, line 1, through page 5, line 10 of the Specification. Antecedent basis for the changes to claim 12 can be found at page 21, lines 11-25 of the specification.

Claims 1-4, 6-12, 14 and 15 are rejected under 35 USC § 102(b) as being anticipated by U.S. Patent Number 6,093,786 to Kelsey. Dependent claims 5, 13, 16-23, 24 and 25 are rejected as being obvious over Kelsey, in view of secondary references.

Kelsey relates to a resin composition mainly having a polytrimethylene terephthalate. In order to suppress the generation of acrolein, Kelsey employs a hindered phenol compound. Kelsey describes this at column 5, line 61 to column 6, line 2 as follows:

The hindered phenol can be added to the pressure step of the polymerization process to the vacuum step, or to the polymer melt prior to solid-stating. Addition to the vacuum step has the advantage of producing polymer which is, in general, lower in color than if the hindered phenol is added to the pressure step. In a preferred embodiment for minimum acrolein generation and greatest convenience, the organophosphate and the hindered phenol are added to the reaction mixture of the pressure step of melt polycondensation.

Furthermore, WO98/23662 (WO662), which was submitted previously with an Information Disclosure Statement, uses the same basic technology as that of Kelsey. Because the method for preparing PTT in WO662 is not different from that of Kelsey, one can conclude that the resultant PTT of WO662 is the same as that of Kelsey.

WO662 describes that by adding a phenol compound to the polymer during the polymerization process, the phenol compound becomes covalently bonded to the polymer molecule at a terminal and of the polymer molecule. The resulting polymer molecule has an integrated phenol group. Therefore, it follows that in Kelsey, the hindered phenol compound is bonded to the polymer molecule at a terminal of the polymer molecule. In order to bond the hindered phenol compound to the polymer chain, Kelsey adds the hindered phenol compound to the reaction mixture during a pressure step of melt polycondensation.

**Hindered Phenol Structure**

As described above, from WO98/23662, Kelsey is considered to require the bonding of the hindered phenol compound to the polymer molecule at a terminal or both terminals.

WO98/23662 describes at page 6, lines 14 – 19, that the hindered phenol compound is

added during polymerization so as to chemically bond the hindered phenol compound to the polymer.

Independent claim 1 recites a polytrimethylene terephthalate composition comprising a polymer component and at least one component that includes a phenolic hydroxy group (a). Because independent claim 1 recites two separate components, it is submitted that independent claim 1 patentably distinguishes over Kelsey, which has a phenolic functional group directly bonded to the polymer.

As mentioned above, Kelsey adds the hindered phenol compound to the reaction mixture during a pressurization step of melt polycondensation. To the contrary, claim 12 has been amended to recite that the phenolic hydroxy group (a) is added after the completion of polycondensation while it is in a molten state before being solidified or to the polymer which is obtained by remelting a once-solidified polymer. Kelsey does not disclose or suggest addition of a phenolic hydroxyl group (a) at this point in the process.

#### **Hindered Phenol and Secondary Amine on Single Compound – Claim 26**

Although the claims are not limited to what is disclosed in the specification, the application discloses that having both of phenol functional group and secondary amino functional group in a single compound can provide a more advantageous effect in suppressing emission of acrolein than combination of a compound having phenol functional group with a compound having secondary amine functional group (see page 15, line 7 to page 16, line 12). Such advantageous effect can be confirmed by comparing Example 1 with Examples 2 to 4 and Example 5 to 8.

In contrast, Kelsey does not describe any secondary amine groups. Regarding Irganox 1098 recommended in the present invention, Kelsey employed Irganox 1098 in Runs 2 and 3 (Table 5, Irganox 1098 corresponds to HP6). However, in Kelsey, when employing Irganox 1098 (Runs 2 and 3 in Table 5), the oligomer had higher YI value than the oligomer not employing Irganox 1098 (Run 1). The oligomer employing Irganox 1098 was more easily colored than the oligomer without Irganox 1098. See also page 5, line 22 of WO '662. Kelsey '786 therefore teaches away from using Irganox 1098. In fact, Kelsey does not even describe the amount of generation of acrolein, which is a problem to be solved of the Kelsey when employing Irganox 1098.

New independent claim 26 recites a polytrimethylene terephthalate composition comprising a polymer component and a component having both a phenolic hydroxy group (a) and a secondary amine structure (B). Independent claim 26 clearly requires a single compound

having both a phenol group and secondary amines. To the contrary, Kelsey teaches away from a single compound having both a phenol group and a secondary amine structure. For this reason, claim 26 patentably distinguishes over the reference.

### Claims 7 and 8

Kelsey discloses that more preferable advantageous effects can be obtained by further addition of a phosphorous compound. This technique is different from employment of a sulfur compound in the present invention. This difference clearly represents a difference in technical ideas between the present invention and Kelsey.

Dependant claims 7 and 8 recite that the composition further comprises a compound containing sulfur atom. Kelsey prefers a phosphorous compound and does not disclose or suggest a compound containing a sulfur atom.

The remaining references are cited only for the additional limitations of the dependent claims. These references do not compensate for the deficiencies discussed above with regard to Kelsey. Accordingly, the prior art rejections should be withdrawn.

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that affect is solicited.

If there are any underpayments or overpayments of fees associated with the filing of this Amendment, please charge and/or credit the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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